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Canadian Provincial Investment Climate 2010 Report

by Charles Lammam, Alex Gainer, and Niels Veldhuis



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**& Entrepreneurship
& Markets**

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Executive summary

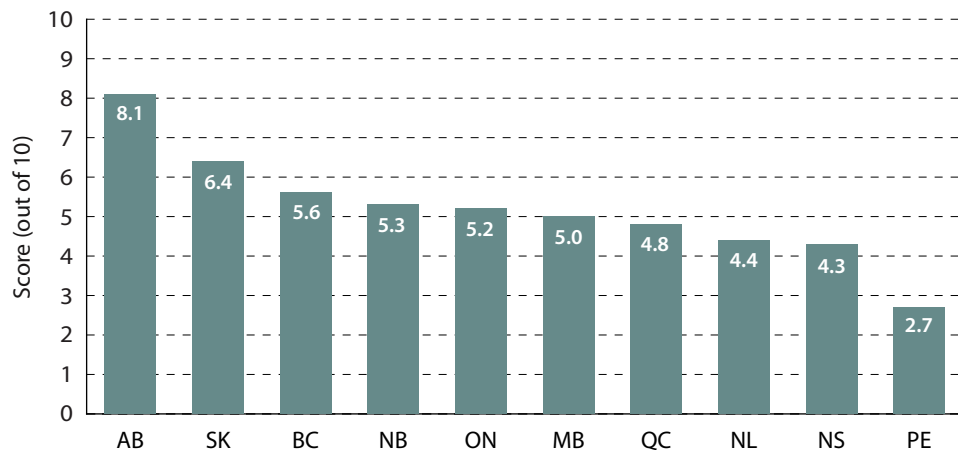
The allocation of investment capital, both internationally and domestically, is increasingly acknowledged as a leading contributor to a jurisdiction's economic success or failure. It is critical, therefore, to have objective, empirical measurements that document differences in investment climates. The Provincial Investment Climate Index provides an important empirical measurement of investment climates since it quantitatively evaluates public policies that create and sustain positive investment climates.

The basis of the Index is the Investment Managers Survey (IMS) series undertaken by the Fraser Institute between 1994 and 2004. Canada's leading investment managers were regularly surveyed on a host of issues, including provincial investment climates and the policies that contribute to positive and negative climates. The policies identified in those surveys (1998–2004) were used to create the Provincial Investment Climate Index.

Canadian Provincial Investment Climate Index

The Canadian Provincial Investment Climate Index includes six components: (1) Corporate income tax (CIT), (2) Fiscal prudence, (3) Personal income tax (PIT), (4) Transportation infrastructure, (5) Labour market regulation, and (6) Burden of regulation. These components were assessed by the IMS respondents as having an important influence on the creation and maintenance of a positive investment climate.

Canadian Provincial Investment Climate Index, 2010—scores and ranks

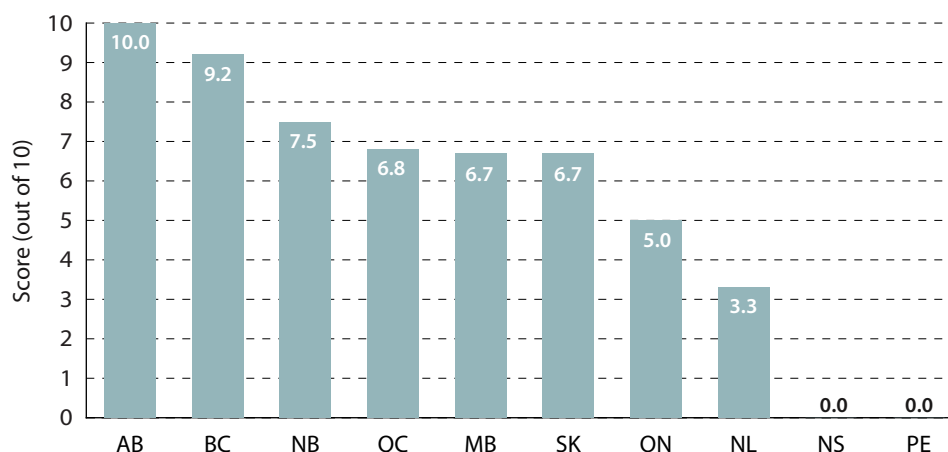


Canada's three western provinces, Alberta, Saskatchewan, and British Columbia, topped the rankings for the 2010 Provincial Investment Climate Index. Alberta ranked first with a score of 8.1 out of 10 and was clearly Canada's top province. Saskatchewan (6.4) and British Columbia (5.6) followed some distance behind. New Brunswick ranked fourth with a score of 5.3, while Ontario (5.2) came fifth. Manitoba (5.0) was the last province to score at or above 5.0.

All of the remaining provinces received scores below 5.0, indicating relatively poor performance in creating and maintaining a positive investment climate. Quebec (4.8) ranked seventh, which is troubling since its large population makes the province a key component of the Canadian economy. Prince Edward Island ranked last with a score of 2.7 out of 10.

Components of the Provincial Investment Climate Index

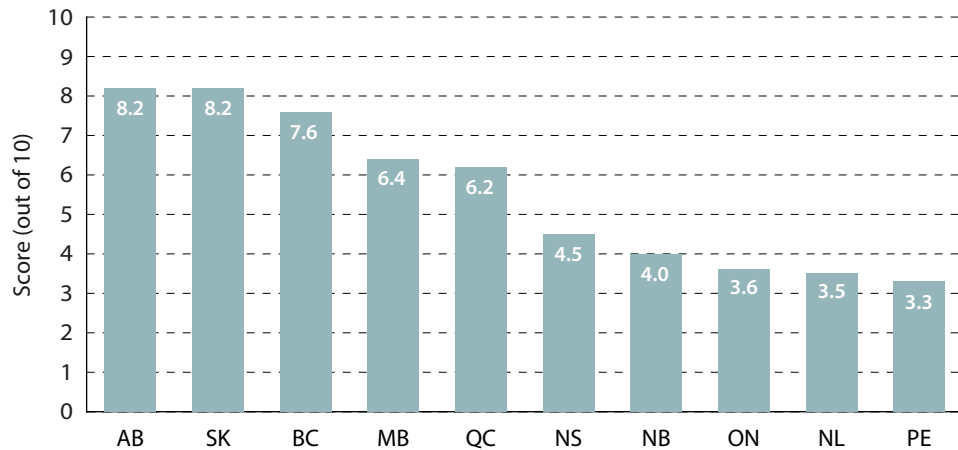
1 Corporate income tax



This component assesses the degree to which provinces tax business profits through corporate income taxes. Alberta received the highest score with a perfect 10.0 out of 10. British Columbia (9.2) and New Brunswick (7.5) followed and four other provinces received scores at or above 5.0: Quebec (6.8), Manitoba (6.7), Saskatchewan (6.7), and Ontario (5.0). The remaining provinces all received scores below 5.0; Nova Scotia and Prince Edward Island tied for last place.

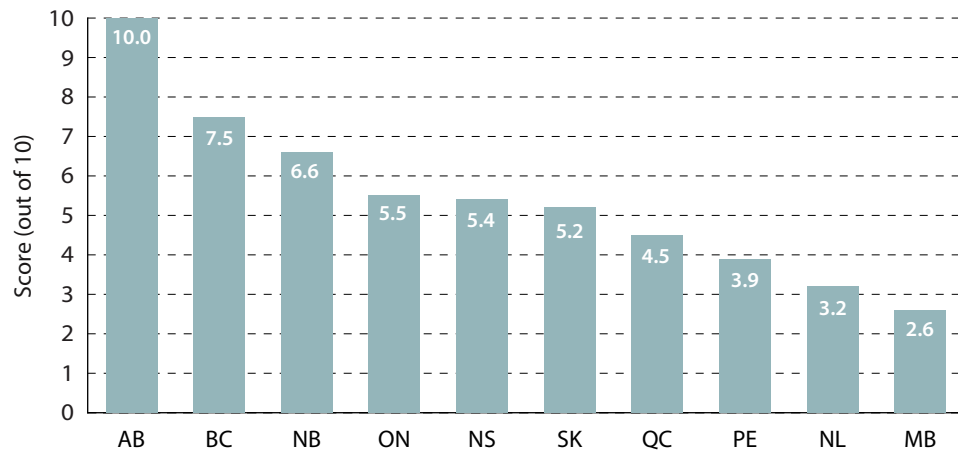
Note: Provinces of Canada and their acronyms: Alberta = AB; British Columbia = BC; Manitoba = MB; New Brunswick = NB; Newfoundland & Labrador = NL; Nova Scotia = NS; Ontario = ON; Prince Edward Island = PE; Quebec = QC; Saskatchewan = SK.

2 Fiscal prudence



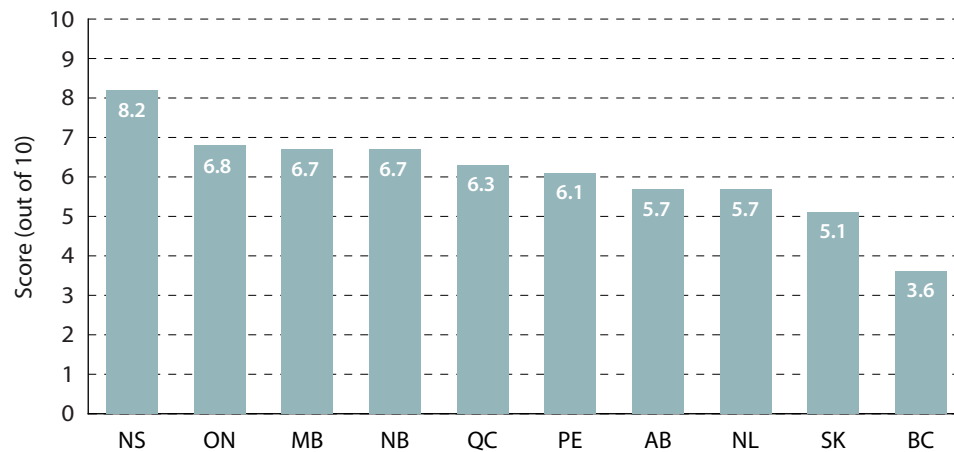
Fiscal prudence measures how well provincial governments have managed their budgets and whether government spending is sustainable. Alberta and Saskatchewan tied for the highest score (8.2 out of 10), followed by British Columbia with a score of 7.6. Only two other provinces received scores above 5.0: Manitoba (6.4) and Quebec (6.2). Of all the provinces, Prince Edward Island received the lowest score (3.3).

3 Personal income tax



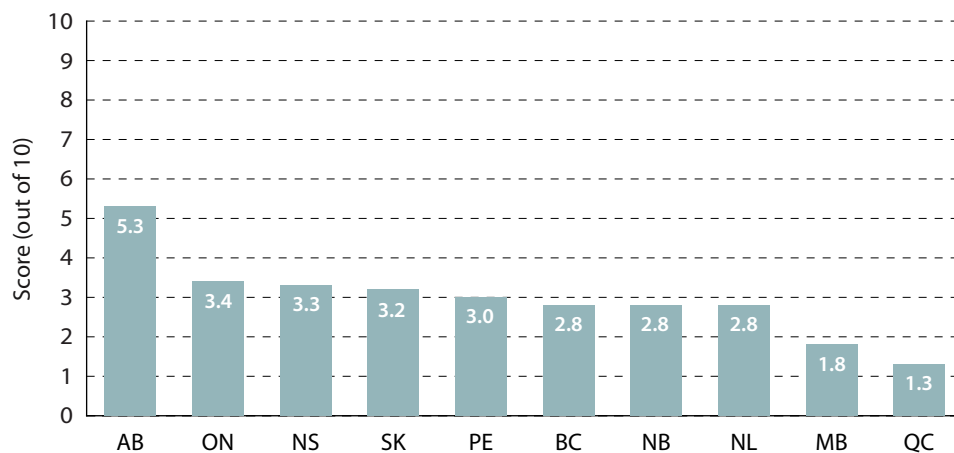
This component measures the personal income-tax burden based on income-tax rates and the levels of income at which the rates apply. Alberta ranked first with a perfect score of 10.0 because of its single-rate income tax. Next were British Columbia (7.5) and New Brunswick (6.6); Ontario (5.5), Nova Scotia (5.4), and Saskatchewan (5.2) were the only other provinces to receive a score above 5.0. Manitoba received the lowest score (2.6) and ranked last on this component of the Index because it has relatively high personal income-tax rates that are effective at relatively low levels of income.

4 Transportation infrastructure



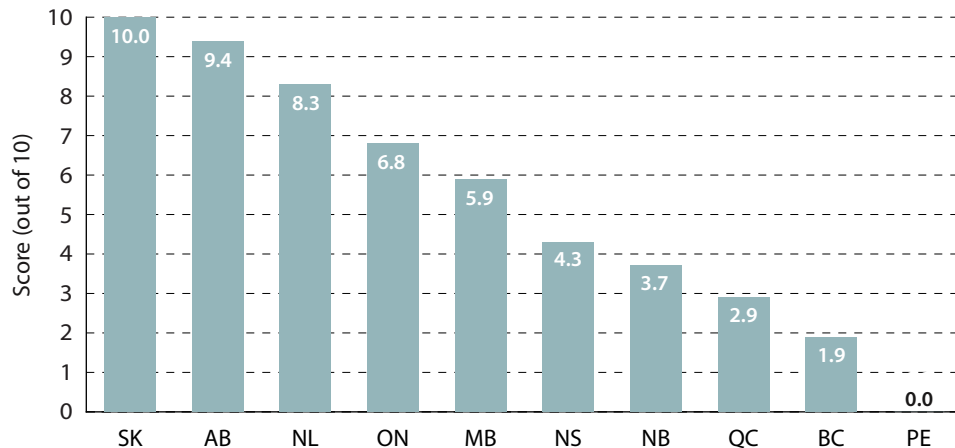
This component assesses the transportation infrastructure in each province including highways, urban transit, air, rail, and marine service. It examines the extent, use, accessibility, cost, and condition of each mode of transportation. Overall, Nova Scotia ranked first with a score of 8.2 out of 10. Ontario (6.8) ranked second and Manitoba and New Brunswick tied in the third position with a score of 6.7. The comparatively weak scores of Saskatchewan (5.1) and British Columbia (3.6) indicate a dramatic need to improve their transportation systems.

5 Labour market regulation



This component of the Index evaluates the labour relations laws of a province to gauge differences in labour laws generally. Alberta received a score of 5.3 out of 10 and was the only province to receive a score of 5.0 or higher. The low scores across the board indicate that provincial labour market regulations need to be reformed.

6 Burden of regulation



This component measures the burden of government regulations, often referred to as “red tape.” This measure is based on a survey of regulatory costs completed by the Canadian Federation of Independent Business (CFIB). The specific measure used is the estimated regulatory cost as a percentage of the provincial economy less government spending. The results are quite striking. Saskatchewan ranked first with a score of 10.0 out of 10. However, Saskatchewan’s regulatory costs represent an alarming 1.8% of GDP. Prince Edward Island ranked last with regulatory costs at an even more worrisome 3.5% of GDP; it received a score of 0.0.

Conclusion

The results of the Provincial Investment Climate Index indicate that, to varying degrees, all of the provinces have room to improve their public policies to attract investors to their jurisdictions. Provinces are encouraged to maintain policies in areas where they performed well and to pursue reforms in areas where they fared poorly. Public policies that contribute to positive investment climates are those that encourage productive economic activities: competitive tax rates (personal and business), adequate and effective transportation infrastructure, prudent fiscal policies on the part of government, labour laws that promote flexibility and balance, and appropriate, cost-effective regulations.

Introduction

Business investment is a powerful driver of economic growth, providing the necessary resources to acquire new machinery and equipment, introduce new technologies, create new job opportunities, and improve productivity. Citizens, politicians, and bureaucrats are becoming more aware of the importance of business investment as a critical determinant of current and future economic prosperity.

Jurisdictions are constantly in competition with one another to provide a positive investment climate, one that is conducive to business investment. Investors respond to differing investment climates by allocating investment resources in a way that maximizes the rate of return on investment. Attracting and sustaining high levels of investment requires an ongoing commitment to policies that contribute to a positive investment climate.

This study is the fifth installment in an ongoing project aimed at understanding and, more importantly, documenting the public policies that contribute to, and sustain, positive investment climates. The study assesses empirically and then ranks the investment climates of the Canadian provinces based on a number of public policies that were identified by investment managers as contributing to a positive investment climate.¹ The Fraser Institute surveyed senior investment managers in Canada on a variety of issues from 1998 to 2004² and these surveys were used to assess and rank the investment climate of the Canadian provinces. *Canadian Provincial Investment Climate: 2010 Report* uses the results from those surveys to create a quantifiable index of provincial investment climates.

Organization of this study

1 *Overview of the Investment Managers Survey* provides a brief history of the Investment Managers Survey (IMS), a profile of respondents, and a description of the components. This section also outlines how respondents rated the degree to which different public policies promote and maintain a positive

1 The authors readily acknowledge that there are other factors that influence investment climates, such as characteristics of the local market and path dependency. This study, however, is limited to the examination of public policies that have an impact on the provincial investment climate.

2 There was no survey in 2003.

investment climate. The results form the foundation for our quantitative index measuring provincial investment climates.

- 2 *Provincial Investment Climate Index* presents the provincial rankings and index scores for each component of the investment climate, as well as the overall scores and rankings for the Provincial Investment Climate Index.
- 3 *Comparing the Provincial Investment Climate Index and the Investment Managers Survey* compares the quantitative index scores from 2006 (the first instalment of the Index) with the results from the 2004 Investment Managers Survey (the last survey published) in order to explore and explain deviations.
- 4 *Conclusion* recommends public policies that contribute to a positive investment climate and gives a summary of the results.

Appendix A Methodology provides more detailed methodological information about the construction of the index.

Appendix B Review of scholarly research on each component provides an overview of research completed on the economics of the various components used in this study.

1 Overview of the Investment Managers Survey

The first Investment Managers Survey (IMS), which asked respondents a broad range of questions, was completed in the winter of 1994. The surveys were originally issued on a quarterly basis.³ Each survey included about 12 questions on topics ranging from the likelihood of Quebec's sovereignty to the financial outlook for markets. All surveys included questions rating the performance of the Bank of Canada and the federal minister of finance.

Beginning in 1998, each issue of the Investment Managers Survey featured a focus chosen from a range of topics from financial regulation to provincial investment climates. There were two sets of questions about the investment climate. The first asked what policies, such as taxation, regulation, and infrastructure, were important to creating and maintaining a positive investment climate. The second set of questions asked for the respondents' subjective evaluations of the state of the investment climate in each of the Canadian provinces.

Profiles of investment managers

Profile of investment managers—size of portfolio Between 1998 and 2004, six issues of the Investment Managers Survey dealing with provincial investment climates were published. During this period, a total of 193 responses were received from investment managers, an average response rate of 23%. In the final year of the survey (2004), respondents were responsible for the administration of over \$336 billion in assets (table 1).⁴

Profile of investment managers—nature of business Table 2 provides information on the nature of the financial firms responding to the surveys between 2000 and 2004.⁵ Nearly half the responses (48%) came from pension-fund

3 The IMS was issued quarterly until the end of 2000, after which it was issued yearly until 2004. No survey was published in 2003. For information on past IMS reports, see Karabegović et al. (2004); Clemens (2002); Fraser Institute (2000, 2001); Clemens and Dixon (1999); and Dixon et al. (1998).

4 The 2000 survey also received 51 responses from investment managers based in the United States, with a total value of US\$430 billion in assets.

5 Data on the nature of firms responding was not available for the 1998 and 1999 surveys.

Table 1: Profile of Investment Managers—size of portfolio

	Number of responses	Nominal value of assets (\$billions)
1998	37	\$140
1999	26	\$130
2000	31	\$249
2001	24	\$282
2002	30	\$331
2004	45	\$336
Total	193	\$1,467

Note: There was no survey completed in 2003.

Sources: Karabegovic, Clemens, and Godin, 2004; Clemens, 2002; The Fraser Institute, 2000 and 2001; Clemens and Dixon, 1999; Dixon, Mihlar, and Clemens, 1998.

Table 2: Profile of Investment Managers—nature of business

	Venture Capital	Pension Fund	Investment Fund	Other	Number of responses
2000	10%	55%	35%	0%	31
2001	0%	57%	35%	9%	24
2002	3%	52%	38%	7%	30
2004	4%	40%	51%	4%	45
Total number of responses, 2000–2004	6	63	53	6	130
Percent of total responses, 2000–2004	5%	48%	41%	5%	

Note: Sum of annual results may not be 100 percent due to rounding.

Sources: Karabegovic, Clemens, and Godin, 2004; Clemens, 2002; The Fraser Institute, 2000 and 2001; Clemens and Dixon, 1999; Dixon, Mihlar, and Clemens, 1998; calculations by the authors.

managers and another 41% came from investment-fund managers. Managers of venture-capital funds made up only 5% of survey respondents. The results for the years between 2000 and 2004 mirror the weighted average results with little deviation.

Profile of investment managers—location Table 3 provides information about the geographic location of the survey respondents. Not surprisingly, a large portion of respondents identified their operations as being based in Ontario (56%). Significant responses were also received from Quebec (16%), Alberta (13%), and British Columbia (11%).

Table 3: Profile of Investment Managers—location

	British Columbia	Alberta	Ontario	Quebec	Other
2000	10%	16%	58%	10%	6%
2001	21%	17%	38%	21%	4%
2002	11%	7%	52%	22%	7%
2004	7%	13%	67%	13%	0%
Percent of total responses, 2000–2004	11%	13%	56%	16%	4%

Note: Sum of annual results may not be 100 percent due to rounding.

Sources: Karabegovic, Clemens, and Godin, 2004; Clemens, 2002; The Fraser Institute, 2000 and 2001; Clemens and Dixon, 1999; Dixon, Mihlar, and Clemens, 1998.

Components of a positive investment climate— results of the Investment Managers Survey

The following section summarizes the results of the IMS regarding the policies identified and ranked by respondents as contributing to, and sustaining, a positive investment climate. This is a critical discussion since it forms the basis for the creation of an empirical measure of investment climates.

The surveys issued between 2000 and 2004 evaluated 11 policies as likely to have an effect on provincial investment climates.⁶ These components were ranked by investment managers on a scale from 1 to 10, with 10 being the best score. Survey data from these four surveys was aggregated to produce an average rating for each of the components.⁷

6 The 1998 and 1999 IMS surveys were not included in this analysis because the policy areas considered in those surveys did not match the areas considered in the surveys conducted between 2000 and 2004. The 1998 and 1999 surveys considered only five policy areas that are broader in definition than those of the 2000 to 2004 surveys: deficit reduction, national unity/Quebec referendum, social policy, tax reform/high taxes, and unemployment. The results from the 1998 and 1999 surveys generally support the findings from the surveys between 2000 and 2004.

7 It is not clear whether scores are perfectly analogous from one year to the next. That is, there may be a difference between a score of 7 in a survey issued in one year and a score of 7 in another. Over the course of the survey period, however, the rankings and values given to each component showed very little variance.

Descriptions of the components

- 1 *Corporate income tax* This component measures the amount of income tax corporations pay on their profits. Since all jurisdictions are subject to the federal corporate income tax, this component measures only provincial corporate income taxes.
- 2 *Fiscal prudence* Fiscal prudence is the degree to which provincial budgets balance revenues and spending. Jurisdictions that avoid deficit spending or maintain surpluses will exhibit strong fiscal prudence, which minimizes the need to raise taxes in the future.⁸
- 3 *Personal income tax* This component measures the amount of tax individuals must pay on earned income such as salaries and wages. Only provincial income taxes were considered since all jurisdictions must pay federal personal income taxes.
- 4 *Capital gains tax* Individuals and firms are subject to capital gains taxes when an asset whose value has increased beyond its nominal purchase price is sold. In Canada, at both the federal and provincial level, a portion of the capital gains is treated as income and taxed at the individual's highest marginal personal income-tax rate.
- 5 *Infrastructure* This component represents the breadth, functionality, and effectiveness of the transportation network (highways, railways, seaports, and airports) that facilitates the movement of goods, services, and people in a jurisdiction.
- 6 *Corporate capital tax* Corporate capital taxes are profit-insensitive levies assessed on the total capital (debt and equity) of a firm once it reaches a predetermined level of capital. The use of corporate capital taxes in Canada has been waning but they are still used by the federal government and by a number of provinces.
- 7 *Flexible labour markets* This component evaluates the ease with which labour markets can adjust wages and the mix of labour and capital in response to changes in the marketplace. Labour markets that can readily adjust exhibit a high degree of flexibility, while those that are prescriptively regulated are considered rigid.

8 Data for the fiscal-prudence component was only available in the 2004 survey.

- 8 *Regulatory burden* Regulations are the rules and standards, sometimes referred to as “red tape,” that governments use to control the transactions, operations, and entry of firms. This intervention in the marketplace affects many aspects of an economy, including health-and-safety standards, business licensing, remittance of taxes, and the ability of workers to engage in certain types of activities.
- 9 *Cost-efficient environmental regulations* This component measures the extent to which the social benefits of environmental policies outweigh their costs, as measured by their negative impact on employment and economic growth.
- 10 *Provision of social services* This component measures the spending on social services undertaken by provinces. Programs included in this category are primary and secondary education, social assistance (welfare), health care, and child-care services.
- 11 *Aid to the private sector* This component measures the level of government subsidies provided to private firms. This assistance takes many forms, including special tax breaks, direct cash grants, and favourable regulations such as the imposition of trade barriers.

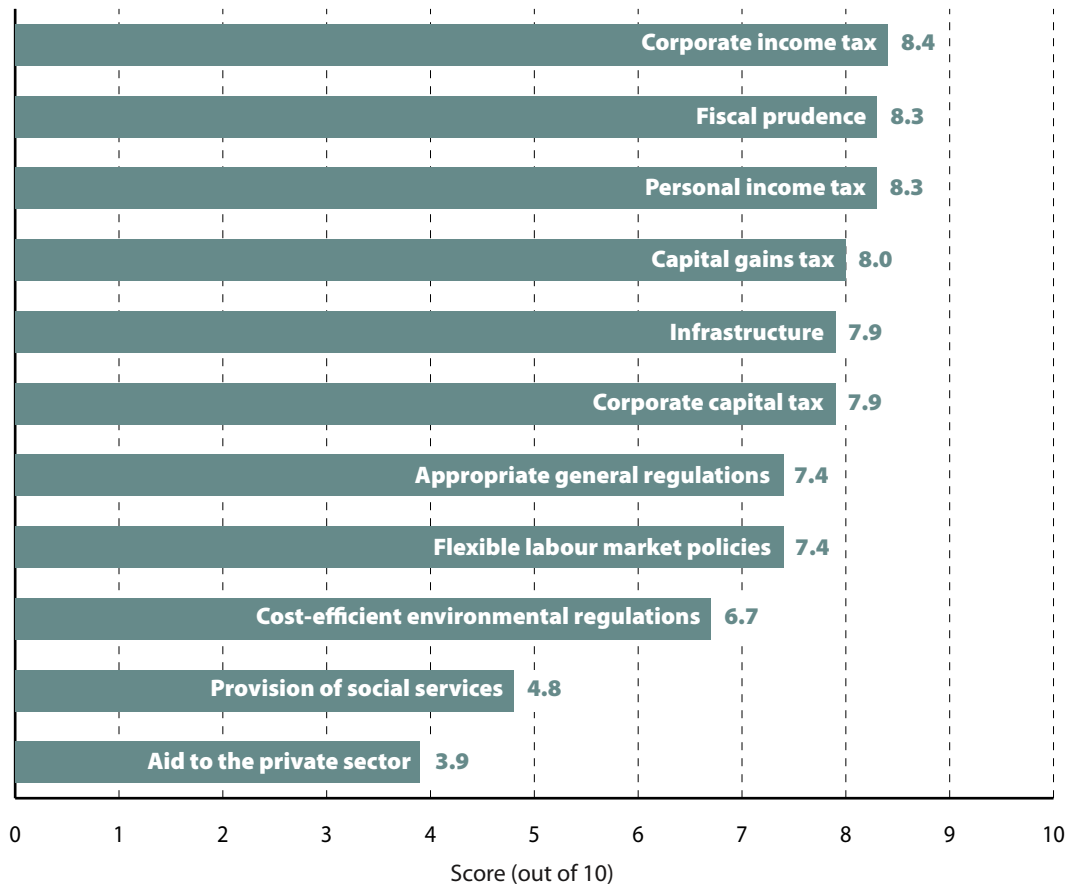
Summary of survey results

Overall, the survey results (figure 1) strongly suggest that properly structured and competitive taxes are imperative for governments wanting to create and maintain a positive investment climate. Taxes on corporate income (8.4), personal income (8.3), capital gains (8.0), and corporate capital (7.9) were ranked as four of the six most important components. Survey respondents also ranked fiscal prudence (8.3) and infrastructure (7.9) highly. The results of the surveys also indicate that flexible labour markets, appropriate general regulations, and cost-efficient environmental regulations are important, though less so than the other components. In contrast, aid to the private sector (3.9) and the provision of social services (4.8) were seen to have a negligible effect on creating and maintaining a positive investment climate.

Selection of components

The study made every effort to include policy areas identified by the survey respondents as having an important effect on creating and maintaining a positive investment climate. Five policy areas were not included because of a lack of data, because they were already included in other policy areas, or because the policies were no longer in force.

Figure 1: The most important economic policies according to investment managers surveyed from 2000 to 2004



Note: Data from the four surveys of 2000, 2001, 2002, and 2004 were aggregated to produce an average rating for each of the components. There was no survey published in 2003.

Sources: Karabegović, Clemens, and Godin, 2004; Clemens, 2002; Fraser Institute, 2000 and 2001.

Corporate Capital Taxes Previous editions of *Canadian Provincial Investment Climate* included a component for measuring the use of both general and financial corporate capital taxes in the provinces. Corporate capital taxes are one of the most damaging types of taxes since, essentially, they tax the value of a corporation's assets, regardless of profitability (Clemens et al., 2002). Fortunately, most provinces have eliminated general corporate capital taxes in recent years. As of January 2011, nine of 10 provinces will have eliminated their general corporate capital tax and Nova Scotia plans to eliminate it in 2012. Progress on eliminating the corporate capital tax on financial institutions has unfortunately been much slower. Only three provinces (Alberta, British Columbia, and Ontario) have eliminated their financial corporate capital tax though Quebec is planning to eliminate it in 2011.

Since the general corporate capital tax has been eliminated across the provinces, the corporate capital tax (CCT) component was excluded in this year's report. While the corporate capital tax on financial institutions will continue to weaken the investment climate in the six provinces that still use it, a stand-alone indicator for the financial capital tax would have put too much weight on an indicator that is sector specific.

Capital gains taxes Capital gains taxes were excluded because of the way in which they are calculated. Recall that capital gains are taxed at an individual's highest personal income-tax rate. This treatment is consistent across the provinces. Thus, the results of an analysis of capital gains taxes across the provinces would parallel exactly an analysis of personal income-tax rates, thus counting their effect twice. As a result, the study excluded the capital gains tax from its components.

Cost-efficient environmental regulations There was no data set available that adequately measured differences in the use of cost-efficient environmental regulations by the provinces. It is hoped that data will become available so that this component can be included in future editions.

Provision of social services and Aid to the private sector Finally, the study excluded both the provision of social services and aid to the private sector since ratings indicated that neither policy contributed significantly to a positive investment climate. These policies have high opportunity costs given that they have little or no effect on investment climates. That is, rather than contribute to the formation of a positive investment climate, they impede the pursuit of more effective government policy, such as the lowering of tax rates.

Final components and weighting

The final list of components used to calculate the Provincial Investment Climate Index, along with the relative weight given to each, is shown in table 4. Weights were determined by taking the average final scores from the survey respondents for each component and adjusting them so that they sum to 100.0.

Table 4: Components of the Provincial Investment Climate Index

	Weight
1 Corporate Income Tax (CIT)	17.6%
i General corporate income tax rate	
2 Fiscal Prudence	17.4%
i Average deficit (surplus) as a percentage of GDP	
ii Average provincial government spending as a percentage of GDP	
iii Average annual change in spending as a percentage of GDP	
iv Average debt-service charges as a percentage of GDP	
3 Personal Income Tax (PIT)	17.4%
i Top marginal tax rate and threshold	
ii Middle marginal tax rate and threshold	
4 Transportation Infrastructure	16.6%
<i>[From the Transportation Performance of the Canadian Provinces Index; see table 9 for a list and description of the components of the Index.]</i>	
5 Labour Market Regulation	15.6%
<i>A Certification and Decertification</i>	
i Remedial certification	
ii Difference between certification and decertification application thresholds	
iii Mandatory secret ballot for certification and decertification	
iv First contract provision	
<i>B Union security</i>	
i Mandatory union membership allowed	
ii Mandatory union dues allowed	
<i>C Regulation of unionized firms</i>	
i Successor rights (existing collective agreement is binding on new owner)	
ii Technological change	
iii Provisions for arbitration	
iv Replacement workers	
v Third-party (or second-site) picketing	
6 Burden of Regulation	15.5%
i Total cost of regulation as a percentage of GDP less provincial government spending	

Sources: Karabegovic, Clemens, and Godin, 2004; Clemens, 2002; The Fraser Institute, 2000 and 2001; Clemens and Dixon, 1999; Dixon, Mihlar, and Clemens, 1998; calculations by the authors.

2 Provincial Investment Climate Index

This section of the study presents the scores and rankings for the Provincial Investment Climate Index (2010) and its components. The index reflects the extent to which the provinces have implemented policies highlighted by respondents to the Investment Managers Survey as those that encourage and sustain a positive investment climate

The Provincial Investment Climate Index includes six components: (1) Corporate income tax (CIT), (2) Fiscal prudence, (3) Personal income tax (PIT), (4) Transportation infrastructure, (5) Labour market regulation, and (6) Burden of regulation.⁹ Several components contain multiple measures.¹⁰ Each measure is scored on a scale from zero to 10, where the top-performing province is scored at 10 while the lowest performing province is given a zero. The scores for the measures are weighted equally within each category. To estimate an overall index, the six components were weighted according to the final scores the investment managers assigned to each component (table 4).¹¹

9 The influence of Crown corporations on provincial investment climates is not included in this analysis. The authors acknowledge, however, that the presence of Crown corporations could discourage private-sector firms and thus business investment. See Megginson and Netter, 2001 for a thorough discussion of the theoretical and empirical evidence on the relative performance of state-owned and privately owned firms; types of privatization; if and by how much privatization has improved the performance of former state-owned enterprises; how investors in privatizations have fared; and the impact of privatization on the development of capital markets and corporate governance. See also Lammam and Veldhuis, 2009 for a discussion of the benefits of privatizing Crown corporations in Canada.

The analysis also does not consider the effect of interprovincial barriers to trade of goods and services and labour mobility. The authors acknowledge that interprovincial barriers to trade and labour mobility could be a disincentive for private firms to invest in a given jurisdiction. Interprovincial trade barriers lead to misallocation of capital and labour as they prevent businesses and individuals from allocating their resources to the most beneficial use. Free trade eliminates artificial trade barriers and impediments that waste resources and time for those doing business in other provinces. For a discussion about this issue and its implications in Canada, see Knox and Karabegović, 2009.

10 Transportation infrastructure is made up of 23 measures; see table 9.

11 For additional information about the methodology used, see Appendix A (p. 35). For a brief summary of some of the scholarly research on the economic importance of each of the six components included in this study, see Appendix B (p. 37).

Overall results

Canada's three most western provinces, Alberta, Saskatchewan, and British Columbia, received the top rankings on the 2010 Provincial Investment Climate Index. Alberta ranked the highest with a score of 8.1 out of 10 and was clearly Canada's top province for policies that encourage and sustain a positive investment climate (table 5). Saskatchewan (score of 6.4) and British Columbia (score of 5.6) followed some distance behind. New Brunswick ranked fourth with a score of 5.3 while Ontario (5.2) came fifth. Manitoba (5.0) was the last province to score at or above 5.0.

The remaining provinces received scores below 5.0, indicating that they had policies poorly designed to create and maintain a positive investment climate. Quebec (4.8) ranked seventh, which is troubling since its large population makes the province a key component of the Canadian economy. Prince Edward Island ranked last with a score of 2.7 out of 10.

1 Corporate income tax

This component measures the degree to which provincial governments tax business profits through corporate income taxes (table 6) based on the general statutory corporate income-tax rate.¹² Overall, Alberta received the highest score with a 10.0 out of 10 based on its corporate income-tax rate of 10.0%. British Columbia ranked second with a score of 9.2 followed by New Brunswick (7.5).¹³ Four other provinces received scores at or above 5.0: Quebec (6.8), Manitoba (6.7), Saskatchewan (6.7), and Ontario (5.0). The remaining three provinces received scores below 5.0 indicating relatively high, statutory corporate income-tax rates. Nova Scotia and Prince Edward Island tied for last position based on their corporate income-tax rates of 16.0%.

2 Fiscal prudence

Fiscal prudence measures how well provincial governments have balanced their budgets and whether or not government spending is sustainable (table 7). This component of the Index evaluates provincial fiscal performance across

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- 12 Every province maintains a preferential corporate income-tax rate for small businesses, which introduces artificial preferences or biases in the marketplace that can pose serious problems. For a thorough discussion of the economics associated with a preferential rate for small business, please see Clemens and Veldhuis, 2005.
- 13 New Brunswick's budget for 2009 overhauled the province's tax system to encourage investment and improve economic performance. On the business side, the province's corporate income-tax rate is set to fall to 8% by 2012 (New Brunswick, Department of Finance, 2009). This will give New Brunswick the lowest corporate income-tax rate in Canada, lower than the 10% rate scheduled to be levied in Alberta and British Columbia at that time.

Table 5: Canadian Provincial Investment Climate Index, 2010—scores and rankings (out of 10), overall and by component

	Overall		1 Corporate Income Tax		2 Fiscal Prudence		3 Personal Income Tax		4 Transportation Infrastructure		5 Labour Market Regulation		6 Burden of Regulation	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
AB	8.1	1	10.0	1	8.2	1	10.0	1	5.7	7	5.3	1	9.4	2
SK	6.4	2	6.7	5	8.2	1	5.2	6	5.1	9	3.2	4	10.0	1
BC	5.6	3	9.2	2	7.6	3	7.5	2	3.6	10	2.8	6	1.9	9
NB	5.3	4	7.5	3	4.0	7	6.6	3	6.7	3	2.8	6	3.7	7
ON	5.2	5	5.0	7	3.6	8	5.5	4	6.8	2	3.4	2	6.8	4
MB	5.0	6	6.7	5	6.4	4	2.6	10	6.7	3	1.8	9	5.9	5
QC	4.8	7	6.8	4	6.2	5	4.5	7	6.3	5	1.3	10	2.9	8
NL	4.4	8	3.3	8	3.5	9	3.2	9	5.7	7	2.8	6	8.3	3
NS	4.3	9	0.0	9	4.5	6	5.4	5	8.2	1	3.3	3	4.3	6
PE	2.7	10	0.0	9	3.3	10	3.9	8	6.1	6	3.0	5	0.0	10

Note: Provinces of Canada and their acronyms: Alberta = AB; British Columbia = BC; Manitoba = MB; New Brunswick = NB; Newfoundland & Labrador = NL; Nova Scotia = NS; Ontario = ON; Prince Edward Island = PE; Quebec = QC; Saskatchewan = SK.

Sources: The formula used to calculate each component is contained in Appendix A.

Table 6: Corporate Income Taxes (CIT)—scores and rankings out of 10; rates effective 2010

	Score	Rank	General Corporate Income-Tax Rate
AB	10.0	1	10.0
BC	9.2	2	10.5
NB	7.5	3	11.5
QC	6.8	4	11.9
MB	6.7	5	12.0
SK	6.7	5	12.0
ON	5.0	7	13.0
NL	3.3	8	14.0
NS	0.0	9	16.0
PE	0.0	9	16.0

(1) New Brunswick reduced its general corporate income tax from 12% to 11% effective July 1, 2010. The rate presented is a weighted average of both rates.

(2) Ontario reduced its general corporate income tax from 14% to 12% effective July 1, 2010. The rate presented is a weighted average of both rates.

Sources: Pricewaterhouse Coopers, 2010; calculations by the authors.

Table 7: Fiscal Prudence (five-year average)—scores and rankings (out of 10), 2005/06–2009/10

	Overall		Deficit (surplus) as a percentage of GDP			Provincial government spending as a percentage of GDP			Annual change in spending as a percentage of GDP			Debt service charges as a percentage of GDP		
	Score	Rank	%	Score	Rank	%	Score	Rank	%	Score	Rank	%	Score	Rank
AB	8.2	1	1.7	10.0	1	13.0	10.0	1	3.4	2.8	8	0.1	10.0	1
SK	8.2	1	1.5	10.0	1	17.3	7.4	2	0.9	8.5	2	1.0	6.9	2
BC	7.6	3	0.9	10.0	1	19.3	6.2	4	1.2	7.8	4	1.2	6.4	3
MB	6.4	4	0.6	10.0	1	24.6	3.0	8	1.2	7.9	3	1.7	4.7	5
QC	6.2	5	(0.2)	7.0	7	20.9	5.2	5	0.2	10.0	1	2.3	2.8	7
NS	4.5	6	0.4	10.0	1	24.4	3.2	7	3.1	3.5	7	2.8	1.3	9
NB	4.0	7	(0.2)	7.0	7	25.9	2.2	9	3.0	3.8	6	2.2	3.1	6
ON	3.6	8	(0.8)	0.0	10	17.7	7.2	3	3.9	1.8	9	1.5	5.3	4
NL	3.5	9	2.5	10.0	1	22.8	4.1	6	4.7	0.0	10	3.2	0.0	10
PE	3.3	10	(0.4)	4.9	9	29.6	0.0	10	1.9	6.2	5	2.5	2.1	8

(1) The source of the data for the Fiscal Prudence component is now the provincial Public Accounts (PA) whereas in previous editions of *Canadian Provincial Investment Climate* the source was Statistics Canada's Financial Management System (FMS). The source was changed because Statistics Canada discontinued publishing FMS data as of spring of 2010 (the latest year of FMS data is 2008/09) and will be moving in 2012 to the International Monetary Fund's accounting system called Government Finance Statistics. This new system will replace the FMS, making already published FMS data inconsistent with the new data and preventing us from updating the report in coming years with FMS data. The change in data source will affect this year's results since data from the FMS and PA differ in three fundamental ways: FMS includes data on both provincial and local governments while PA includes data only for provincial governments; FMS and PA use different reporting entities and accounting definitions; and PA uses an accrual-based accounting approach while FMS uses a cash-based accounting approach.

(2) Provinces that generated surpluses over the period of analysis are treated as though they balanced their budgets. This is done because, by definition, surplus money either is spent or reduces net debt. If a province registers an average surplus for the 2005/06–2009/10 term, then it is automatically assigned a score of 10.

(3) Quebec's spending is adjusted for the federal tax abatement.

(4) British Columbia and Manitoba had the same average annual change in spending as a percentage of GDP (1.2%) but show different scores on this measure. This is due to rounding: British Columbia actually has a slightly higher average annual increase in spending (1.18%) than Manitoba (1.15%) when a second decimal place is used. Since greater spending increases result in lower scores, British Columbia scored 7.8 in the min-max analysis whereas Manitoba scored 7.9.

(5) The overall score for the Fiscal Prudence component was calculated by averaging the scores of its four subcomponents. The full value of the subcomponent scores (not the subcomponent scores rounded to one decimal place as presented in the table) were used to calculate this average. So the overall component score may not exactly equal the average of the subcomponent scores as they appear in the table.

Sources: Canada, Department of Finance, 2010a, 2010b; Statistics Canada, 2010b; calculations by the authors.

four subcomponents: (i) average deficit (surplus) as a percentage of gross domestic product (GDP), (ii) average provincial government spending as a percentage of GDP, (iii) average annual change in spending as a percentage of GDP, and (iv) average debt-service (interest) charges as a percentage of GDP.¹⁴ Overall, Alberta and Saskatchewan showed the most fiscal prudence, with both provinces scoring 8.2 out of 10. British Columbia followed with a score of 7.6, while Manitoba finished fourth with a score of 6.4. Only one other province received a score above 5.0: Quebec (6.2). Prince Edward Island received the lowest score (3.3) and ranked last.

i Average deficit (surplus) as a percentage of GDP

Average deficit (surplus) as a percentage of GDP measures the average fiscal balance (deficits and surpluses) between 2005/2006 and 2009/2010 as a share of GDP. All provinces maintaining average surpluses, regardless of the size, received a score of 10.0 while the lowest score was reserved for the province with the largest average deficit.¹⁵ Six provinces maintained an average surplus over the time period, resulting in a perfect score of 10.0: Newfoundland & Labrador (2.5% of GDP), Alberta (1.7% of GDP), Saskatchewan (1.5% of GDP), British Columbia (0.9% of GDP), Manitoba (0.6% of GDP), and Nova Scotia (0.4% of GDP). Over the same period, the remaining four provinces had an average deficit. The average deficit varied from a low of 0.2% of GDP in both New Brunswick and Quebec to a high of 0.8% of GDP in Ontario, which ranked last.

¹⁴ Please note that the data for the Fiscal Prudence component are now sourced from the provincial Public Accounts (PA) whereas in previous editions of the Canadian Provincial Investment Climate the data came from Statistics Canada's Financial Management System (FMS). The source was changed because Statistics Canada discontinued publishing FMS data as of spring of 2010 (the latest year of FMS data is 2008/09). Statistics Canada is moving to the International Monetary Fund's accounting system called Government Finance Statistics in 2012. This new system will replace the FMS, making the already published FMS data inconsistent with the new data and preventing us from updating the report in coming years with FMS data. The change in data source will affect this year's results since data from the FMS and PA differ in three fundamental ways: FMS includes data on both provincial and local governments while PA includes data only for provincial governments; FMS and PA use different reporting entities and accounting definitions; and PA uses an accrual-based accounting approach while FMS uses a cash-based accounting approach. The Fiscal Prudence measures cover a five-year period from 2005/06 through to 2009/10 to smooth year-to-year variations.

¹⁵ Scores are calculated using a min-max formula and thus are relative. To avoid awarding provinces for larger surpluses and penalizing provinces for small surpluses, each province received a score of 10.0 regardless of the size of its surplus.

ii Average provincial government spending as a percentage of GDP

Average provincial government spending as a percentage of GDP measures how much a provincial government spends compared to the size of the economy over the same five-year period (2005/2006 to 2009/2010).¹⁶ Alberta, where average spending by the provincial government was 13.0% of provincial GDP, received the highest score and ranked first on this measure. Saskatchewan, where provincial government spending consumed 17.3% of GDP, ranked second. Ontario, where spending by the provincial government equaled 17.7% of GDP, ranked third; British Columbia, where average provincial government spending equaled 19.3% of GDP, ranked fourth; and Quebec, where provincial spending equaled 20.9% of GDP, ranked fifth. The remaining five provinces had scores below 5.0. Prince Edward Island had the highest share of provincial government spending relative to its economy, 29.6%, and ranked last among the provinces.

iii Average annual change in spending as a percentage of GDP

Average annual change in spending as a percentage of GDP measures the average annual change in spending by a provincial government (as a share of the economy) between 2005/2006 and 2009/2010.¹⁷ Quebec had the slowest growth in government spending as a share of the provincial economy (0.2%). Saskatchewan ranked second (0.9%), and British Columbia and Manitoba both saw government spending (relative to the size of their economy) grow by 1.2% over the same period. Prince Edward Island followed with growth in spending of 1.9% and the remaining five provinces had average growth in government spending as a share of GDP of over 2%. Newfoundland & Labrador ranked last with average government spending growth of 4.7%.

iv Average debt-service charges as a percentage of GDP

Debt-service charges are the annual costs of servicing the debt a government has accumulated. These charges act as a wedge between the amount of revenue a government extracts from the economy and the amount actually spent on government programs. Alberta had the lowest debt charges, 0.1% of GDP on average between 2005/2006 and 2009/2010. Saskatchewan ranked second with debt charges of 1.0% of GDP. British Columbia and Ontario followed with debt charges of 1.2% and 1.5%, respectively, of GDP. The other six provinces received a score below 5.0. Newfoundland & Labrador received the lowest score (0.0) and ranked last with debt-servicing costs amounting to 3.2% of GDP.

¹⁶ Quebec's spending is adjusted for the federal tax abatement.

¹⁷ Quebec's spending is adjusted for the federal tax abatement.

3 Personal income tax (PIT)

This component measures the personal income-tax burden based on both tax rates and the level of income at which the rates apply (table 8). This component of the Index examines both the top marginal personal income-tax rate and the threshold at which it applies, as well as the middle income-tax rate and its threshold. Alberta dominated the overall scores and rankings on this component of the Index, with a perfect score of 10.0. This is due to its single-rate personal income tax, the only single-rate PIT in the country. British Columbia ranked second with a score of 7.5—note the large gap between Alberta and the other Canadian provinces—and New Brunswick followed with a score of 6.6. Ontario (5.5), Nova Scotia (5.4), and Saskatchewan (5.2) were the only other jurisdictions to finish above 5.0. Manitoba received the lowest score (2.6) and ranked last on this component of the Index because it has relatively high personal income-tax rates that are effective at relatively low levels of income.

i Top marginal personal income-tax rate and threshold

The western provinces and New Brunswick had the best performance on this measure, which combines the top personal income-tax rate and the level of income at which it applies. Alberta ranked first with its single-rate personal income tax of 10.0%. New Brunswick ranked second with a score of 6.2 and a top personal income-tax rate of 14.3% that applies to income over \$118,427. Saskatchewan ranked third with a score of 5.7 (top personal income-tax rate of 15.0 that applies to income over \$115,297) and British Columbia (5.0) and Nova Scotia (5.0) tied for fourth. All other jurisdictions scored below 5.0. Manitoba ranked last with a score of 1.9 out of 10 and a top personal income-tax rate of 17.4% that applies to income over \$67,000. Ontario received a slightly higher score (2.5), having the same rate of 17.4% but an income threshold of \$76,986.

ii Middle marginal personal income-tax rate and threshold

Alberta and British Columbia led the results for this measure, which combines the middle personal income-tax rate and the level of income at which it applies.¹⁸ Alberta ranked first with its single-rate personal income-tax rate. British Columbia ranked second with a score of 9.9 and an average middle personal income-tax rate of 10.2% that applies to an average income threshold of \$63,307. Ontario ranks third with a score of 8.6 and an average middle

¹⁸ The middle personal income-tax rate is defined as the rate between a jurisdiction's minimum and maximum rate. The same definition applies for the middle provincial threshold. When there are several that fit this description, the rates and thresholds are averaged. For example, in the case of British Columbia, which has five personal income-tax brackets, the middle three were averaged to produce a single middle rate and threshold.

Table 8: Personal Income Taxes, scores and rankings (out of 10)**8a: Top provincial tax rates effective as of 2010**

	Overall		Top provincial tax rate (provincial portion only) and threshold at which it applies					
	Score	Rank	Rate (%)	Score	Threshold (\$)	Score	Score (rate & threshold)	Rank
AB	10.0	1	10.0	10.0	N/A	10.0	10.0	1
BC	7.5	2	14.7	5.7	99,987	4.3	5.0	4
NB	6.6	3	14.3	6.1	118,427	6.4	6.2	2
ON	5.5	4	17.4	3.3	76,986	1.7	2.5	9
NS	5.4	5	21.0	0.0	150,000	10.0	5.0	4
SK	5.2	6	15.0	5.5	115,297	6.0	5.7	3
QC	4.5	7	19.2	1.6	127,021	7.4	4.5	6
PE	3.9	8	18.4	2.4	98,143	4.1	3.2	7
NL	3.2	9	14.4	6.0	62,556	0.0	3.0	8
MB	2.6	10	17.4	3.3	67,000	0.5	1.9	10

8b: Middle provincial tax rates effective as of 2010

	Middle provincial tax rate (provincial portion only) and threshold at which it applies					
	Rate (%)	Score	Threshold (\$)	Score	Score (rate & threshold)	Rank
AB	10.0	10.0	N/A	10.0	10.0	1
BC	10.2	9.8	63,307	10.0	9.9	2
NB	12.9	6.6	54,632	7.3	7.0	4
ON	11.2	8.6	58,888	8.6	8.6	3
NS	16.4	2.5	60,590	9.2	5.8	5
SK	13.0	6.5	40,354	2.9	4.7	6
QC	18.5	0.0	59,655	8.9	4.4	8
PE	15.3	3.8	47,977	5.3	4.5	7
NL	12.7	6.9	31,278	0.1	3.5	9
MB	12.8	6.8	31,000	0.0	3.4	10

(1) Reported rates and thresholds are effective 2010. Personal income-tax rates include surtaxes, when applicable. Quebec's tax rate is adjusted for abatement.

(2) As Quebec has opted out of the programs under the Federal-Provincial Fiscal Arrangements Act, Quebec taxpayers file separate federal and provincial personal income-tax returns. To equate tax payable with federal rates and thresholds, Quebec taxpayers receive a refundable tax abatement of 16.5% (Treff and Perry, 2008). In order to reflect this, Quebec's provincial statutory tax rates (16.0%, 20.0%, and 24.0%) and thresholds (\$0, \$38,570 and \$77,140) have been adjusted for the abatement.

(3) Since Alberta has a single tax rate, the thresholds do not apply. The score for this measure was calculated using the other nine jurisdictions; Alberta was assigned a score of 10 out of 10.

(4) The middle personal income-tax rate is defined as the rate between a jurisdiction's minimum and maximum rate. When there are several rates that fit that definition, the rates and thresholds are averaged.

(5) The overall score for the Personal Income Taxes component was calculated by averaging the scores of its two subcomponents. The full value of the subcomponent scores (not the subcomponent scores rounded to one decimal place shown in the table) were used to calculate this average. So the overall component score may not exactly equal the average of the subcomponent scores as they appear in the table.

Sources: Pricewaterhouse Coopers, 2010; Canada, Department of Finance, 2010b; calculations by the authors.

personal income-tax rate of 11.2% that applies to an average income threshold of \$58,888. New Brunswick (7.0) and Nova Scotia (5.8) were the only other provinces to receive a score above 5.0.

The remaining five provinces all received a score below 5.0, indicating that middle personal income-tax rates in the majority of provinces have high rates, are effective at relatively low levels of income, or both. Manitoba ranked last with a score of 3.4 out of 10. Manitoba has an average middle personal income-tax rate of 12.8% that applies to an average income threshold of \$31,000.

4 Transportation infrastructure

This component assesses the transportation infrastructure in each province including highways, urban transit, air, rail, and marine service. Infrastructure provides for an efficient flow of goods, services, and labour within and between jurisdictions. Data on the transportation infrastructure of the provinces are taken from the Fraser Institute's publication, *Transportation Performance of the Canadian Provinces* (Hartgen et al., 2008). The transportation infrastructure component measures the extent, use, accessibility, cost, and condition of each mode of transportation (table 9). The component is calculated by scoring each of the 23 measures from Hartgen et al. using the min-max scoring methodology used throughout this study (see Appendix A for details).¹⁹ All of the scores from the 23 measures are then combined to produce an overall score for transportation infrastructure using the weighting scheme used in Hartgen et al., in which the 23 measures are organized into two categories, passenger and transportation, and weighted based on passenger trips and tonnes of freight.²⁰

Nova Scotia ranked first with a score of 8.2 out of 10 (table 10). Ontario ranked second with a score of 6.8, while Manitoba and New Brunswick followed close behind, both with scores of 6.7. British Columbia ranked last with a score of 3.6 out of 10. The fact that no province was close to a score of 10 or zero suggests that there is considerable variation across the 23 measures of transportation and that each province has much room to improve its transportation system.

19 The overall scores are calculated by using a min-max scoring method for all 23 measures in Hartgen et al., 2008. This scoring method was used to be consistent with other measures in this report. Using the min-max method generates some differences from the overall rankings in Hartgen et al., where a different scoring methodology—value in relation to the national average—was used. Quebec moves from third to fifth place in the overall rankings; another six provinces move up or down one position. The overall rankings from Hartgen et al. (2008) are: (1) Ontario, (2) Nova Scotia, (3) Quebec, (4) Manitoba, (5) New Brunswick, (6) Prince Edward Island, (7) Alberta, (8) Saskatchewan, (9) Newfoundland & Labrador, and (10) British Columbia.

20 See Hartgen et al., 2008, pages 59–73, for a detailed description of measurement methodology and weighting values.

Table 9: Components of the Transportation Index

PASSENGER TRAFFIC		
Mode	Dimension	Measure
Highway	Traffic	Vehicle-km of travel per 2-lane km of road
	Cost	Provincial expenditures per km, major road
	Condition	Percent of major roads in fair/poor condition
	Access	Travel time to Ottawa
	Access	Travel time to US border
	Safety	Fatality rate per billion-vehicle-km
	Congestion	Annual hours of delay per capita
	Access	Average round trip commuting time
Transit	Traffic	Ridership per capita served
	Cost	Operating cost per trip
Air	Traffic	Passengers per flight
	Safety	Accidents per million passengers
Rail		Not evaluated
Marine	Traffic	Government operating cost per passenger
	Safety	Accidents per million passengers
FREIGHT TRAFFIC		
Mode	Dimension	Measure
Highway	Traffic	Tonnes of truck traffic per km of road
	Safety	Fatal collisions per million tonnes
	Trade	Total employment per truck border crossing
Air	Traffic	Tonne of cargo per flight
Rail	Traffic	Origin tonnes per km of 1st-line track
	Safety	Rail accidents per million originating tonnes
Marine	Traffic	Port operating expenditures per tonne handled
	Cost	Port expense/revenue ratio
	Safety	Shipping accidents per million tonnes

Source: Hartgen et al., 2008.

Table 10: Transportation performance of the Canadian provinces

	Overall		Passenger traffic		Freight traffic	
	Score	Rank	Performance ratio	Rank	Performance ratio	Rank
NS	8.2	1	8.4	1	6.3	3
ON	6.8	2	7.0	2	5.2	6
MB	6.7	3	6.9	3	5.1	9
NB	6.7	3	6.7	4	5.9	5
QC	6.3	5	6.3	6	6.1	4
PE	6.1	6	6.6	5	1.4	10
AB	5.7	7	5.8	7	5.2	6
NL	5.7	7	5.6	8	6.5	2
SK	5.1	9	5.0	9	6.6	1
BC	3.6	10	3.4	10	5.2	6

(1) The overall scores are calculated by using a min-max scoring method for all 23 measures in Hartgen et al., 2008. This scoring method was used to be consistent with other measures in this report. Using the min-max method generates some changes in the overall rankings from those in Hartgen et al., where a different scoring methodology—value in relation to the national average—was used. Quebec moves from third to fifth place in the overall rankings; another six provinces move up or down one position. The overall rankings from Hartgen et al. (2008) are: (1) Ontario, (2) Nova Scotia, (3) Quebec, (4) Manitoba, (5) New Brunswick, (6) Prince Edward Island, (7) Alberta, (8) Saskatchewan, (9) Newfoundland & Labrador, and (10) British Columbia.

(2) The overall score for the Transportation Performance component was calculated by averaging the scores of its two subcomponents. The full value of the subcomponent scores (not the subcomponent scores rounded to one decimal place shown in the table) were used to calculate this average. So the overall component score may not exactly equal the average of the subcomponent scores as they appear in the table.

Source: Hartgen et al. (2008); calculations of overall scores and ranks by authors.

5 Labour market regulation

Regulation of the labour market is assessed using differences among labour-relations laws, which regulate the interactions among unions, employees, and employers in Canada (tables 11 a, b, c). There are, of course, many other laws, such as those governing occupational certification and employment standards, that also constitute regulation of the labour market. However, empirical research documenting differences between national and subnational levels of government policy on such laws is scarce. Thus, this study relies on a biennial publication (Karabegović et al., 2009) that quantifies differences in labour-relations laws, an important component of labour market regulation.

This component comprises (A) Certification and decertification; (B) Union security, and (C) Regulation of unionized firms.²¹ Certification and

²¹ The data used to evaluate this component come from Karabegović et al., 2009, which evaluates differences in labour relations laws across Canadian provinces and US states. It gives an analysis of labour relations laws more extensive than that presented here.

decertification covers the process through which a union acquires and loses its power to be the exclusive bargaining agent for a group of employees. It also covers how first collective-bargaining agreements are formed. Union security covers union membership and the requirements for paying union dues. The third subcomponent examines regulations that apply to unionized firms.²²

Alberta was the only province to receive a score above 5.0; it scored 5.3 out of 10. The remaining nine provinces received scores below 5.0, indicating overly rigid regulation of labour markets across the country. Ontario (3.4) and Nova Scotia (3.3) ranked second and third. Quebec, which had the lowest score (1.3), ranked last.

A *Certification and decertification*

Certification and decertification examines the process through which a union acquires and loses the right to be the exclusive bargaining agent for a group of employees. A number of issues are considered: whether or not secret-ballot votes are required to certify or decertify a union; the difference between the thresholds for an application to certify and an application to decertify; whether remedial certification power exists; and how first collective bargaining agreements are formed.

Alberta ranked first with a score of 10.0 out of 10. Most provinces fared quite well on this measure of labour relations laws with eight of the 10 provinces receiving scores of 5.0 or higher. Manitoba received the lowest score (3.3).

B *Union security*

Union security examines whether or not workers can choose to become members of a unions and to pay dues. Unfortunately, all Canadian provinces permit both mandatory union membership and full payment of dues as a condition of employment and all, therefore, receive a score of zero.

C *Regulation of unionized firms*

Regulation of unionized firms looks at regulations that affect unionized companies. Five areas of regulation were included: (i) successor rights (whether an existing collective agreement is binding on new owner of a business); (ii) technological change; (iii) provisions for arbitration; (iv) the use of replacement workers, and (v) third-party (or second-site) picketing. Alberta received the highest score (6.0) and ranked first. The remaining nine provinces scored below 5.0: Nova Scotia, Ontario, and Prince Edward Island received scores of 4.0, while British Columbia, Manitoba, Newfoundland & Labrador, New Brunswick, and Saskatchewan received scores of 2.0. Quebec ranked last with a score of 0.0.

22 For a description of the measures included in this component and the criteria for determining scores, see Appendix A: Methodology (p. 35).

Table 11a: Labour Market Regulation, scores and ranks (out of 10)—Certification and decertification

	Overall		Remedial certification	Difference between certification & decertification thresholds	Mandatory secret ballot for certification & decertification	First contract provision	Score (certification & decertification)	Rank
	Score	Rank						
AB	5.3	1	10.0	10.0	10.0	10.0	10.0	1
ON	3.4	2	0.0	10.0	10.0	5.0	6.3	3
NS	3.3	3	0.0	3.3	10.0	10.0	5.8	7
SK	3.2	4	10.0	10.0	10.0	0.0	7.5	2
PE	3.0	5	0.0	10.0	0.0	10.0	5.0	8
BC	2.8	6	0.0	10.0	10.0	5.0	6.3	3
NB	2.8	6	0.0	10.0	5.0	10.0	6.3	3
NL	2.8	6	0.0	10.0	10.0	5.0	6.3	3
MB	1.8	9	0.0	3.3	5.0	5.0	3.3	10
QC	1.3	10	10.0	0.0	0.0	5.0	3.8	9

Table 11b: Labour Market Regulation, scores and ranks (out of 10)—Union security

	Mandatory union membership allowed	Mandatory union dues allowed	Score (union security)	Rank
	AB	0.0	0.0	0.0
ON	0.0	0.0	0.0	1
NS	0.0	0.0	0.0	1
SK	0.0	0.0	0.0	1
PE	0.0	0.0	0.0	1
BC	0.0	0.0	0.0	1
NB	0.0	0.0	0.0	1
NL	0.0	0.0	0.0	1
MB	0.0	0.0	0.0	1
QC	0.0	0.0	0.0	1

Note: The overall score for the Labour Market Regulation component was calculated by averaging the scores of its three subcomponents. The full value of the subcomponent scores (not the subcomponent scores rounded to one decimal place as in the table) were used to calculate this average. So the overall component score may not exactly equal the average of the subcomponent scores as they appear in the table.

Sources: Karabegović et al., 2009; calculations by authors

**Table 11c: Labour Market Regulation, scores and ranks (out of 10)—
Regulation of unionized firms**

	Successor rights	Technological change	Provisions for arbitration	Replacement workers	Third-party picketing	Score (regulation of unionized firms)	Rank
AB	0.0	10.0	0.0	10.0	10.0	6.0	1
ON	0.0	10.0	0.0	10.0	0.0	4.0	2
NS	0.0	10.0	0.0	10.0	0.0	4.0	2
SK	0.0	0.0	0.0	10.0	0.0	2.0	5
PE	0.0	10.0	0.0	10.0	0.0	4.0	2
BC	0.0	0.0	0.0	0.0	10.0	2.0	5
NB	0.0	0.0	0.0	10.0	0.0	2.0	5
NL	0.0	10.0	0.0	0.0	0.0	2.0	5
MB	0.0	0.0	0.0	10.0	0.0	2.0	5
QC	0.0	0.0	0.0	0.0	0.0	0.0	10

Note: The overall score for the Labour Market Regulation component was calculated by averaging the scores of its three subcomponents. The full value of the subcomponent scores (not the subcomponent scores rounded to one decimal place as in the table) were used to calculate this average. So the overall component score may not exactly equal the average of the subcomponent scores as they appear in the table.

Sources: Karabegović et al., 2009; calculations by authors

6 Burden of regulation

This component measures the cost of government regulations, often referred to as “red tape.”²³ The burden of regulation as a percentage of GDP less provincial government spending is the measure used in this study to assess the regulatory burden (table 12). Information on regulatory costs is from a report published by the Canadian Federation of Independent Business (CFIB) (Jones et al., 2010).²⁴

23 There is very little regularly collected data about the cost of regulations in Canada. To date, only periodic examinations and estimates of regulatory costs have been published. The cost of regulation is an area of economics that warrants further investigation and there is a need for systematic studies so we can understand more clearly the costs imposed on society by regulations.

24 In Jones et al., 2010, the cost of regulation was estimated using data compiled through a survey of members of the Canadian Federation of Independent Business (CFIB), mainly small businesses. The results were then extrapolated to account for large businesses. Although the methodology employed to obtain the total cost of regulation by province could be debated, it is the most recent research available by province (Statistics Canada has data on the cost of regulatory compliance available by region). In order to calculate an estimated cost of regulation for 2009, the 2008 data provided in Jones et al., 2010 was extrapolated using inflation from 2009. This estimate of the regulatory burden for 2009 was divided by GDP.

The overall results are quite striking. Saskatchewan ranked first (score of 10.0) with regulatory costs representing 1.8% of GDP. Alberta followed with a score of 9.4 out of 10, while Newfoundland & Labrador ranked third with a score of 8.3. Prince Edward Island ranked last with regulatory costs representing an alarming 3.5% of GDP. British Columbia's level was slightly less at 3.2% of GDP but still disconcerting.

Table 12: Burden of Regulation—cost (% of GDP) and score and rank (out of 10), 2009

	Score	Rank	Total cost of regulation as a percentage of GDP less provincial government spending, 2009
SK	10.0	1	1.8%
AB	9.4	2	1.9%
NL	8.3	3	2.1%
ON	6.8	4	2.4%
MB	5.9	5	2.5%
NS	4.3	6	2.8%
NB	3.7	7	2.9%
QC	2.9	8	3.0%
BC	1.9	9	3.2%
PE	0.0	10	3.5%

(1) The latest available data for the cost of regulation are from 2008. To match 2009 GDP, this data was estimated for 2009 by applying year-over-year inflationary increases to data from 2008.

(2) The data sources used to calculate the Burden of Regulation component have changed in two important ways in this edition of the *Canadian Provincial Investment Climate*, so results for the component differ from previous editions. The first change is the use of an updated survey published by the Canadian Federation of Independent Business (CFIB) on business regulation (Jones et al., 2010). The second change is the measure of government activity that is subtracted from gross domestic product (GDP). In past editions of the *Canadian Provincial Investment Climate*, government activity included consolidated provincial and local government expenditures, which were taken from Statistics Canada's Financial Management System (FMS). Since FMS data was discontinued after 2008/09, government activity in this edition of *Canadian Provincial Investment Climate* includes only provincial government expenditures, which were taken from the provincial Public Accounts (PA).

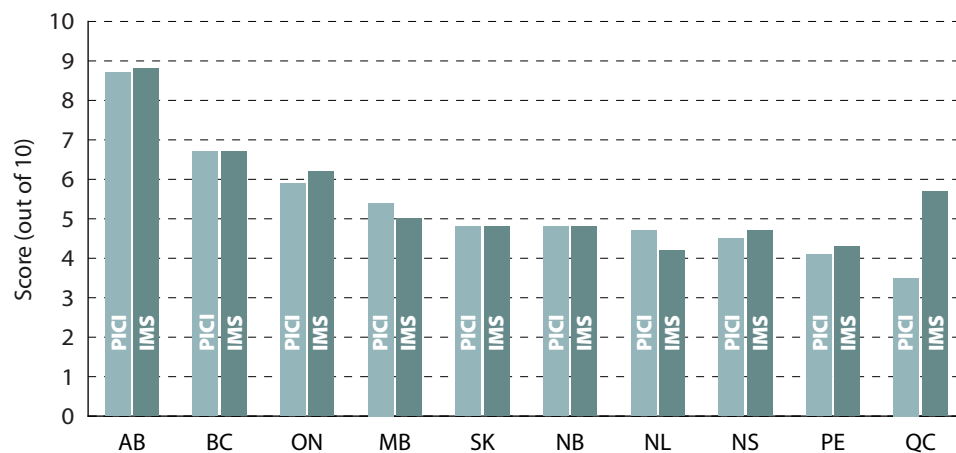
Sources: Jones et al., 2010; Statistics Canada, 2010a, 2010b; calculations by authors.

3 Comparing the Provincial Investment Climate Index and the Investment Managers Survey

The Provincial Investment Climate Index is predicated on the Investment Managers Survey and there is an important and interesting correlation between the results of the two studies. The correlation between the 2004 Investment Managers Survey (Karabegović et al., 2004), the last survey published, and the 2006 Provincial Investment Climate Index (Clemens et al., 2006), the first instalment of the Index, is 0.86. The Index reveals, for example, that Alberta and British Columbia are the provinces with the most favourable investment climates in Canada. These results parallel those in the 2004 Investment Managers Survey exactly (figure 2).

The most noticeable difference between the Index (2006) and the Investment Manager Survey (2004) lies in the results for the provinces of Quebec and Newfoundland & Labrador. According to the Index, which relies on empirical evidence, Quebec has the worst investment climate in Canada. According to the survey respondents, however, the investment climate in Quebec was ranked fourth most attractive in Canada in the most recent survey. Similarly, Newfoundland & Labrador was considered by survey respondents to have the least favourable investment climate in Canada; however, according to the Index, Newfoundland & Labrador ranks seventh.

Figure 2: Provincial Investment Climate Index (PICl 2006) compared to Investment Managers Survey (IMS 2004)



Sources: Karabegovic, Clemens, and Godin, 2004; Clemens et al., 2006; calculations by authors.

“Home bias” could explain these differences. According to this theory, one explanation for the bias is the asymmetry of the information domestic and foreign investors have about the economic performance of domestic firms (Coval and Moskowitz, 1999). This asymmetry influences investors’ decisions towards geographic areas for which they have more information. For example, investors may have access to information about local companies and thus would prefer to invest in local firms rather than in distant ones about which they have less information. They may also be more aware of local opportunities for investment. For instance, it may be that the investment industry has a greater awareness of the opportunities and potential in Quebec than it has of those in Newfoundland & Labrador.

Risk may be another factor explaining the differences as investors prefer to deal with familiar situations (Huberman, 2001) and the reputation of the location in other markets (provincial and international) plays an important role in investment decisions. For instance, Atlantic Canada has gained a reputation as an unattractive location for business investment and this may have had an impact upon investment managers’ perception of Newfoundland & Labrador.

4 Conclusion

The Provincial Investment Climate Index is a quantifiable measure of public policies that contribute to, and sustain, positive investment climates. These public policies were identified by investment managers in surveys conducted over a seven-year period, from 1998 to 2004, by the Fraser Institute.

Recommendations

All provinces have, to varying degrees, room to improve their public policies in order to attract investors to their jurisdictions. Public policies that contribute to positive investment climates are those that encourage productive economic activities: competitive tax rates (personal and business), adequate and effective transportation infrastructure, prudent fiscal policies on the part of government, labour laws that promote flexibility and balance, and appropriate, cost-effective regulations.

Summary of results

Alberta ranked highest for public policies that create and sustain a positive investment climate. There is a large gap between Alberta (8.1 out of 10) and the next most attractive investment climates, Saskatchewan (6.4) and British Columbia (5.6). New Brunswick (5.3) ranked fourth, while Ontario (5.2) came fifth. Manitoba (5.0) was the last province to score at or above 5.0. Prince Edward Island received the lowest score (2.7).

Appendix A: Methodology

The Provincial Investment Climate Index includes six components: (1) Corporate income tax (CIT), (2) Fiscal prudence, (3) Personal income tax (PIT), (4) Transportation infrastructure, (5) Labour market regulation, and (6) Burden of regulation. Investment climates are measured using the most recent data available: (1) Corporate income tax: 2010; (2) Fiscal prudence: 2005/06–2009/10; (3) Personal income tax: 2010; (4) Transportation infrastructure: 2008; (5) Labour market regulation: 2009; and (6) Regulatory burden: 2009. Five-year averages have been employed to balance the need for historical and current performance in the subcomponents of (2) Fiscal prudence.

Four of the six components contain multiple measures. Each measure in the Index is scored on a scale from zero to 10, where the top-performing province is scored at 10 while the lowest-performing province is given a zero. All measures are equally weighted within each component. To estimate an overall score, the six components are weighted according to the final scores the investment managers assigned to each component (table 4).

For all measures, except those in (6) Labour market regulation, each observation was transformed into a number from zero to 10 using the following formula if a higher number is indicative of a worse performance:

$$(V_{\max} - V_i) / (V_{\max} - V_{\min}) \times 10,$$

where V_{\max} is the largest value found within a variable, V_{\min} is the smallest, and V_i is the observation to be transformed. The inverse formula is used where a higher number is indicative of better performance.

For the subcomponent, average deficit as a percentage of GDP, under (2) Fiscal prudence, a province that registered an average surplus for the period from 2005/2006–2009/2010 was automatically assigned a score of 10.

Labour market regulation

The measures included under (6) Labour market regulation relied primarily on bi-modal scoring. The following fall in this category.

Remedial certification A jurisdiction receives a score of zero if the legislation gives the Labour Relations Board the power to certify a union without a mandatory vote; otherwise, it gets a score of 10.

Secret ballot If the legislation requires a mandatory vote for certification and decertification, a jurisdiction gets a score of 10. If the legislation requires a

mandatory vote for neither certification nor decertification, it gets a score of 5. If the legislation requires a mandatory vote for only one of certification or decertification, a jurisdiction gets a score of zero.

First contract provisions If the legislation does not allow a Labour Relations Board to either force binding arbitration on the two parties or directly impose terms and conditions of a first collective agreement, a jurisdiction gets score of 10. If the Board has the power to resolve first contract disputes using both of these mechanisms, a jurisdiction gets a score of zero; if legislation allows one but not the other, a jurisdiction gets a score of 5.

Mandatory union membership allowed If the legislation allows a union and an employer to include a clause in their collective agreement that requires membership in a union as a condition of employment, a jurisdiction gets a score of zero; otherwise, it gets a score of 10.

Mandatory union dues allowed If the legislation requires or allows mandatory payment of dues by those employees who are not members of a union, a jurisdiction gets a score of zero; otherwise, it gets a score of 10.

Successor rights If, in general, a new employer is bound by the existing collective agreement, a jurisdiction gets a score of zero; otherwise, it gets a 10.

Technological change If the legislation requires an employer to inform the union (or the minister of labour) in advance regarding any technological change, a jurisdiction gets a score of zero; otherwise, it gets a score of 10.

Arbitration If the legislation has an intermediate step between procedures in the collective agreement for dealing with disputes (regarding the collective agreement, its meaning, application, and alleged violations) and binding arbitration, a jurisdiction gets a score of 10; otherwise, it gets a zero.

Replacement workers If the legislation allows an employer to hire replacement workers during a legal strike or lockout, a jurisdiction gets a score of 10; otherwise, it gets a zero.

Third-party picketing If the legislation allows striking employees to picket businesses other than their own employer, a jurisdiction gets a score of zero; otherwise, it gets a 10.

Appendix B: Review of scholarly research on each component

Personal and corporate income taxes

Most economists agree that people respond to incentives: they make decisions by comparing the costs and benefits of a particular action and, when either the costs or benefits change, their behaviour also changes. Do taxes distort people's incentives, changing their behaviour with regard to investment, risk-taking, and innovation?

When deciding whether to work an additional hour or to invest an additional dollar, the most important tax rate is the marginal tax rate (Chen, 2000). It matters most because it affects the proportion of increased income that is left after taxes directly. For an investor, the marginal tax rate indicates the additional taxes to be paid for an additional dollar earned through investment. The economic literature suggests that high marginal tax rates, whether in the form of personal income, corporate income, or corporate capital taxes, have a profound effect on working, investing, saving, and entrepreneurial activity.²⁵

Hall and Jorgenson (1967) wrote one of the most influential studies on the relationship between business tax policy and investment. The authors estimate the effects of changes in tax policy on investment behaviour for three major tax revisions in the post-War period in the United States.²⁶ Their findings suggest that tax policy is highly effective at changing the level and timing of investment expenditures.

Carroll et al. (1998) investigated the effect of entrepreneurs' personal income-tax situations on their capital investment decisions. Using income tax returns from a sample of sole proprietors before and after the US Tax Reform Act of 1986, they found that income taxes exert a statistically and quantitatively significant influence on investment decisions. Their results show that

25 For thorough discussions of academic research into the effects of taxation on the behaviour of firms and individuals, see Murphy and Clemens, 2010; Palacios and Harischandra, 2008; Clemens and Veldhuis, 2005; and Veldhuis and Clemens, 2006. For an in-depth review of the impact and costs of taxation, see Clemens, 2008.

26 The three revisions are as follows: (1) the adoption of accelerated methods for computing depreciation for tax purposes in 1954; (2) the reduction of lifetimes used for calculating depreciation on equipment and machinery in 1962; and, (3) the investment tax credit for machinery and equipment of 1962.

“a 5 percentage point rise in marginal tax rates would reduce the proportion of entrepreneurs who make new capital investment by 10.4%. Further, such a tax increase would lower mean capital outlays by 9.9%” (1998: 2).

A more recent study by Djankov et al. (2008) examined the effects of corporate taxes on investment and entrepreneurship in 85 countries using 2004 data. They found that increasing the effective corporate tax rate reduces investment and entrepreneurial activity: an increase of 10 percentage points in the effective corporate tax rate during the first year of operation reduces a country’s ratio of total investment to GDP by about 2 percentage points, reduces the number of businesses (“business density”) by 1.9 firms per 100 people, and discourages the rate of new business registration by 1.4 percentage points.

A study by Parsons (2008) for the Canadian department of Finance explored the industry-level impact when the federal government cut the rate of corporate income tax to 21% in 2004, from 28% in 2001. It found that the corporate tax reductions led to higher investment in Canada. Specifically, “a 10% reduction in the user cost arising from changes in the tax parameters [was] associated with an approximately 7% increase in the capital stock” (2008: 15).

Most recently, in a study published in the prestigious *American Economic Review*, professors Christina and David Romer (2010) of the University of California, Berkley analyzed the impact of changes in the tax burden on economic growth. In this important study, the authors investigated the effects of tax reforms on GDP in the United States in the post-war period. They found that such tax changes had very large effects on GDP: an increase in the tax burden of 1% of GDP lowered economic output (real GDP) by roughly 2% to 3%. They also found that tax increases led to sharp falls in investment, which ultimately depressed GDP.

Fiscal prudence

Government spending

While few would dispute that some level of government spending is necessary for a well-functioning economy, the negative effects of too much government spending cannot be understated. Indeed, a large body of academic research has found that increased government spending can hinder economic performance.²⁷ Harvard professor Alberto Alesina has led important research on the economic effects of government spending. For instance, in a seminal study published in the *American Economic Review* in 2002, professor Alesina and his colleagues examined the link between government spending, business profits, and investment in 18 industrialized countries from 1960 to 1996. They

²⁷ For more comprehensive reviews of this literature, see Mitchell, 2005; Clemens and Veldhuis, 2002; and Harris and Manning, 2006.

found that increased government spending is associated with reduced investment in private business: “an increase of one percentage point in the ratio of primary government spending to GDP leads to a decrease in investment as a share of GDP of 0.15 percentage points” (Alesina et al., 2002: 572). Over a five-year period, the cumulative decline in investment was calculated to reach 0.74 percentage points. The researchers concluded that private-sector investment declined when government spending increased because government employment increased as its spending increased, which inevitably drove up public-sector wages. Higher public-sector wages then put upward pressure on wages that competed with private-sector jobs. The increased wage costs for businesses then decreased profits, which ultimately lowered the level of business investment. This is a critical insight into the economic effects of increased government spending because it is upon investment that we build economic prosperity, productivity growth, and higher living standards. In other words, investment lays the foundation for economic success.

Several other researchers have found a negative relationship between government spending and investment, corroborating Alesina’s results. For instance, Mountford and Uhlig (2009) found that increases in government spending have a negative effect on private investment. Link (2006) also found that government expenditures displace private investment. Similarly, Landau (1983) found that government expenditure reduces the rate of growth of real GDP per person through reduced investment.

Debt and deficits

Economic opinion is divided on the effects of fiscal deficits. The classical view holds that deficits raise interest rates (and thus the cost of capital) by increasing the demand for loanable funds. Higher interest rates, through the higher costs of capital, lead to a reduction in (or “crowding out” of) investment or net exports (or both), thus lowering national income in the long run (Ball and Mankiw, 1996). Many studies have found a positive relationship between government debt and interest rates and support the classical view of how deficits undermine economic growth. For example, Harvard professor Martin Feldstein (1986) determined that each percentage-point increase in the five-year projected ratio of budget deficits to gross national product (GNP) raises the long-term government bond rate by approximately 1.2 percentage points. Eric Engen and Glenn Hubbard (2004) concluded that an increase in government debt equivalent to 1% of gross domestic product (GDP) would increase the long-term real interest rate by about three basis points.²⁸

Other research has found that no significant relationship exists between deficits and interest rates (Hoelscher, 1983; McMillin, 1986; Evans,

28 See also Hoelscher, 1986 for evidence on the positive relationship between government debt and interest rates.

1987; Barro, 1989). The empirical findings of Harvard professor Robert Barro, for instance, suggest that households view deficits as an implicit future tax and, accordingly, will offset a rise in government borrowing by raising their own level of private savings, thereby mitigating any effect on interest rates.²⁹

Nevertheless, empirical evidence shows a direct negative relationship exists between public debt and economic growth. Consider the findings from a recent important study published by the International Monetary Fund, which examined the relationship between public debt levels and economic growth for a group of advanced and emerging countries over almost four decades (Kumar and Woo, 2010). They found that a 10-percentage point increase in a country's debt-to-GDP ratio leads to a decrease in economic growth per person by 0.2 percentage points, "mainly due to reduced investment and slower growth of the capital stock per worker" (2010: 21). Another key recent study, by University of Maryland professor Carmen Reinhart and Harvard University professor Kenneth Rogoff, found much of the same: persistent deficits propel public debt to levels that impede economic growth (Reinhart and Rogoff, 2010).

Transportation infrastructure

A highly developed transportation infrastructure including, for example, highways and airports enables goods and people to move efficiently. Transportation infrastructure can bolster a firm's productivity by providing an unpaid direct input (transportation services) and lowering the costs of existing inputs (Jiang, 2001).³⁰ Further, a highly developed infrastructure may attract inputs (i.e., labour and capital) from other regions (Gillen, 1996). Many studies have investigated the benefits of transportation on economic performance generally and on investment specifically.

David Aschauer (1989), in his seminal work on infrastructure, examined the relationship between capital investment in public infrastructure and total factor productivity from 1949 to 1985. He found that a 1.0% increase in "core" infrastructure, which includes streets and highways, airports, electrical and gas facilities, mass transit, water systems, and sewers, increases productivity by 0.24%. Another widely cited author, Alicia Munnell (1990, 1992), using a similar definition of infrastructure, has corroborated this highly positive effect on output.

29 This argument is commonly referred to as Ricardian Equivalence. For an overview of the theory, see Law and Clemens, 1998.

30 See Shirley and Winston, 2004 and Cohen and Paul, 2004 for more information on the relationship between infrastructure and firms' input costs. See Bernstein and Mamuneas, 2008; Brox and Fader, 2005; and Wylie, 1996 for information specific to Canada.

A study by Calderón and Servén (2004) used data from 1960 to 2000 covering more than 100 countries to assess the impact that infrastructure has on economic growth. Their empirical results showed that an increase in the quality and quantity of infrastructure leads to increased growth in GDP.

More recently, a study by Berechman et al. (2006) reviewed 15 empirical studies and found a consistent positive relationship between investment in transportation infrastructure and economic growth.³¹ Usually, this is expressed as a relationship between the amount of money spent on infrastructure and its impact on GDP in dollar terms. The estimates ranged from 0.03 to 0.56, meaning that an increase of one dollar spent on infrastructure was associated with a \$0.03 to \$0.56 increase in GDP.³²

Other research has focused on how transportation infrastructure can attract investment. For example, a study by Goodspeed et al. (2006) investigated the determinants of foreign direct investment (FDI) among 47 countries from 1995 to 2002 and 37 countries from 1996 to 2002. The authors studied the impact corruption, taxes, and infrastructure had on attracting investment from other regions³³ and found that corruption and tax levels had a negative impact on FDI while infrastructure has a strong and positive relationship with FDI. In fact, they found the quality of infrastructure is a critical aspect of attracting investment to both developed and developing countries.³⁴

Finally, Fedderke and Bogetic (2009) examined the effect of infrastructure on worker productivity. Their results showed that a 1% rise in the infrastructure stock raises worker productivity by 30% to 40%. This is

31 See Gillen (1996) for a similar, but earlier, review of the research.

32 An earlier study by Harchaoui and Tarkhani (2003) found similar results exploring 37 Canadian industries over a 40-year period. They found that, for the Canadian business sector, the marginal benefit associated with public infrastructure capital is about 0.17. In other words, a \$1 increase in the net capital stock generates \$0.17 of cost-saving producer benefits per year. Similarly, Pereira and Andraz (2005) looked at the long-term effects of public investments in Portuguese public transportation infrastructure from 1976 to 1998 and found that €1 of investment increases long-term output by €9.5.

33 Goodspeed et al. (2006) measured infrastructure using consumption of electric power, the number of telephone connections, and the *World Competitiveness Yearbook's* Infrastructure Index. The *World Competitiveness Yearbook's* Infrastructure Index is a broad measure including basic infrastructure (roads, other transportation infrastructure, and health infrastructure), technological infrastructure (e.g., telecommunications, computers), energy self-sufficiency, and environmental infrastructure (e.g., waste management services).

34 Similarly, Mollick et al. (2006) examined the relationship between attracting FDI and infrastructure by studying Mexican states from 1994 to 2001. The authors measure infrastructure using the number of telephone connections, the total length of the state's interstate road network, and the total length of the state's secondary roads. The authors concluded that infrastructure is important in attracting FDI.

important since previous studies have found that a rise in worker productivity increases the rate of return on private capital, which leads to more investment in an economy.

Labour market regulation

Labour markets are an essential component of a functioning economy because they provide the mechanism by which society allocates one of its most important sources of capital—human capital. In order to have a labour market that performs efficiently, wages and the mix of labour and capital must be allowed to adjust to changes in market conditions. Flexible labour markets encourage this process, producing high rates of job creation and improved productivity: employees are able to shift their efforts to endeavours that generate the greatest return to them while employers invest and focus on ventures that maximize profits.³⁵

There is a large body of research confirming that flexible labour markets lead to stronger economic performance. The seminal study among these was published by the Organisation for Economic Co-operation and Development (OECD) in 1994; it is commonly referred to as the Jobs Study.³⁶ It concluded that countries with more flexible labour markets—those with regulations that help workers and employers react easily to changing market conditions—enjoyed better records of job creation and higher rates of economic growth. A number of studies support the OECD’s conclusions. For instance, Besley and Burgess (2004), in examining the manufacturing sector in India between 1958 and 1992, determined that labour relations laws that favoured one group over another led to lower output, employment, investment, and productiv-

35 It is important to emphasize that labour markets are generally no different from other markets except that what is being traded is individual work effort, skills, ingenuity, and diligence. The labour market itself, however, acts the same as markets for other products or materials. As demand for the product—in the case of labour markets, labour—increases, the price paid (wages) adjusts upwards until a new equilibrium or balance is achieved between the amount of labour demanded and the amount supplied. Again, as with other markets, the suppliers of labour respond to the new wage rates. New labour may enter the market and labour from other areas of the economy may be reallocated to areas with higher demand. This natural process of reallocation and prioritization continues until a sustainable balance is achieved.

36 For further details of unionization and productivity growth, see Becker and Olsen, 1996; Addison and Hirsch, 1989; and Hirsch and Schumacher, 2001. Fuchs et al. measured the views of labour economists at top universities and found that the median response to the question, “What is your best estimate of the percentage impact of unions on the productivity of unionized companies?” was zero and the mean response was 3.1% (Fuchs et al., 1998: 1392, 1418).

ity. Botero et al. (2004) concluded that increased regulation of the labour market is related to higher unemployment and lower labour-force participation. Di Tella and MacCulloch (2005), using data for 21 OECD countries for the period from 1984 to 1990, determined that increased flexibility of the labour market had a positive impact on employment and labour-force rates. Moreover, Alonso et al. (2004) found that income and capital (investment) per worker depended positively on the flexibility of the labour market.

Another important aspect of labour market flexibility is the speed at which labour markets can react to changing market conditions. Several recent studies have shown that the ability of workers and employers to adjust to market changes quickly has a positive impact on labour-market performance and more generally economic performance. For example, a paper by Caballero et al. (2004) using data from 60 countries covering the period of 1980 to 1998, found that countries that increased labour regulation decreased the speed of adjustment to market changes as well as their annual productivity growth. More recently, Cuñat and Melitz (2007) found that countries with more flexible labour markets adjusted to market shocks much faster and to a greater extent than countries with inflexible labour markets.

Regulations that contribute to inflexible labour laws are often characterized by high levels of unionization. Such regulations include low thresholds for union certification, strong union influence over the resolution of labour disputes, and reduced work incentives (Connolly et al., 1986). Research has repeatedly demonstrated that unionized firms perform worse on productivity growth, profitability, and investment than non-unionized firms (Becker and Olsen, 1986; Addison and Hirsch, 1989; Kuhn, 1998). Hirsch (1997) noted that unions tend to increase wages, reduce profitability, and reduce investment in physical capital and research and development. Hirsch described the wage premium as a tax on capital, which effectively lowers the net rate of return on investment. Fallick and Hassett (1999) determined that the unionization of a firm has the same effect, over a one-year period, as raising the corporate tax rate by 33 percentage points. A study by Metcalf (2003) examined the impact of unionization rates on investment using a large international sample that included Canada. In comparing unionized to non-unionized workplaces, he found that unionization reduces investment by about 20%. Budd and Wang (2004) looked at how a union's bargaining power affects investment in Canada, studying particularly what happens when the use of replacement workers is banned. Using provincial data from 1967 to 1999, they found that adopting a policy banning replacement workers reduced investment, especially within the first few years of the policy change.

More recent research highlights the negative effect of unionization on investment. Lee and Mas (2009) studied the impact of unions gaining the right to represent workers (winning a certification election). By examining data on stock prices from 1961 to 1999, the authors found that union

representation leads to a reduction in a firm's market value. They also found that union representation reduced the number of projects with positive rates of return, which reduces the number of investment opportunities available to a firm.

Burden of regulation

Regulations impose costs on businesses through a variety of channels: restricting a firm's ability to expand operations, limiting allowable rates of return, and imposing barriers to entry and high compliance costs (Alesina et al., 2003). Consumers are likewise affected, through higher prices, fewer innovative products, lower wages, lost time, or fewer choices. In Canada, it is estimated that the cost of complying with regulations in 1996 exceeded \$83 billion, or about \$11,000 per family (Mihlar, 1998: 3).³⁷ In the United States, the total cost of federal regulation alone is approximately US\$500 billion a year (Niskanen, 2001: 389). Weidenbaum and DeFina (1976) estimated that, for every \$1 that government spends to administer regulation, the private sector spends about \$20 to comply. The works of Moore (1995), Regulatory Affairs Directorate (1996), and Douglass et al. (1997) support this result.

A study by Alesina et al. (2003) measured regulations in 21 OECD countries from 1975 to 1996 and examined their relationship to investment rates. Regulation for each country was measured as an index from zero (least restrictive) to 6 (most restrictive) and included entry barriers, public ownership, market share of new entrants, and price controls. The authors found that a one-unit decrease in the regulation index increased the investment rate by 1.1 percentage points in the long-run. To put this in context: if relatively more-restrictive countries such as Germany and France (index value of 3.42) moved to the regulation level of the United States (index value of 0.8), the investment rate in those countries would increase by 2.62 percentage points. This effect is even more pronounced for Italy (index value of 4.57), which would have its investment rate increased by 4.15 percentage points. Blanchard and Giavazzi (2003) examined the impact of reduced regulation on various economic indicators. Their study had two striking results: first, the reduction in regulation led to higher real wages (standard of living) in a country; second, a decrease in regulation lowered the unemployment rate in a country.

More recently, Conway and Nicoletti (2007) examined the record of productivity growth from 1984 to 2004 in 21 OECD countries that had high

37 Vaillancourt and Clemens (2008) conducted an analysis of compliance and administrative costs for the Canadian tax system. For 2005, they found that total compliance and administrative costs ranged between \$18.9 billion and \$30.8 billion, translating into \$585 to \$955 per Canadian.

and low product-market regulation (in information and communication technologies). The authors' key finding was that burdensome regulation can impede the speed at which new productivity gains are adopted. The authors noted that this is particularly true for Canada, concluding that "in the case of Canada, our work suggests that regulatory barriers to competition ... may have prevented Canada from benefiting to the full extent from high productivity growth rates in the United States and other productivity leaders" (Conway and Nicoletti, 2007: 21).³⁸ The authors speculated that productivity growth could be between 0.5 and 1 percentage point faster if Canada changed its mix of anti-competitive regulations to that of countries with fewer and lower regulatory barriers.

Finally, Ardagna and Lusardi (2009) investigated the influence of regulation on new businesses. Using data from 40 countries (including Canada), the authors found that regulation has a negative effect on entrepreneurial activity and investment in new business. They argued that this was a result of regulation reducing the benefits of entrepreneurs' business skills and social connections. They also argued that regulation increased entrepreneurs' fear of failure, further depressing new business activity.

Conclusion

The economic literature on the significance of these policies is consistent with the views of the investment managers. The components discussed above have a powerful impact on many outcomes favourable to the establishment of a strong investment climate: economic growth, investment, profitability, and employment.

38 Similarly, Nicoletti and Scarpetta (2005) reported that burdensome regulation can have a negative impact on multi-factor productivity, the changes in output per unit of combined inputs. Investigating 23 industries in 18 OECD countries from 1984 to 1998, the authors found that "aligning the overall regulatory stance with that of the most liberal OECD country could increase the annual rate of MFP [multi-factor productivity] growth in continental EU countries by between 0.4% and 1.1% over a period of ten years" (2005: 6).

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